



Topic: What is the definition of a nutrient management plan?

Specific EPA Questions:

- *“...the Agency is considering the use of a model or template for identification of the terms of the NMP. The Agency solicits comment on these various approaches to identify the terms of the NMP that would be included in the permit.” (FR pg. 37754).*
- *“EPA solicits comment on the degree of flexibility that should be allowed in NMPs.” (FR pg. 37755).*
- *“EPA is also interested in taking comment on an approach that might allow greater flexibility for CAFO operators in making cropping decisions while assuring permitting authorities and the public that they are complying substantively with the terms of the NMP as incorporated into the permit, even if the CAFO modifies its practices somewhat from those articulated in the NMP and the permit.” (FR pg. 37757).*

Our Concern:

We are concerned that the guidance EPA is providing on nutrient management plans is likely to result in inflexible documents that are fundamentally different than the strategic planning documents now used by farmers.

Our Recommendation:

We recommend that EPA abstain from providing guidance on the following:

1. The definition of a nutrient management plan.
2. The mechanism to incorporate a nutrient management plan into the general permit.
3. Defining what constitutes a significant change in a nutrient management plan.
4. The role of public comment on the nutrient management plan.
5. Template nutrient management plans.

Instead EPA should give the states responsibility to define effective nutrient management planning strategies that meet the diversity of conditions among states.

If EPA insists on providing guidance defining a nutrient management plan and a significant change in a nutrient management plan, define the plan as the collection of decision making tools and standards used to determine the suitability of fields to receive manure and the rates and timing of applications. The definition or “significant changes” should be limited to an intent to change the approach used to determine specific dates and rates of manure application. Avoid defining the nutrient management plan as the dates and rates of application.

Comment:

At the heart of this debate is what defines the “terms” of the nutrient management plan required by the 2nd Circuit court to be included in the NPDES permit issued to a CAFO.

These comments support the concept that the terms of the nutrient management plan that must be incorporated into the NPDES permit are the underlying calculations and sampling procedures that allow the operation to determine appropriate rates of manure application on a field. These comments strongly assert the terms of the nutrient management plan are not the specific dates and rates of application on a specific field.

To determine a rate and quantity of manure application on a field the following field-specific information is needed:

- Method of manure application
- Setback requirements for the field
- Results of the phosphorus loss assessment
- Soil test results
- Crop rotation including field-specific yield goals
- Manure test results
- Estimate of nutrient availability

To determine the timing of the application also requires knowing soil moisture and the weather forecast at the time of application. These are unknowable years in advance.

A nutrient management plan typically forecasts nutrient management activities for five years. The more years you follow a plan the greater the expectation that planned rates and dates of application for a specific field will be different than what should be applied to the field. As we progress through the plan to year five we have access to much better information for determining a manure application in the fifth year of the plan than we did at the time the plan was first created. For example, the rate of manure application should be adjusted for manure tests that will be taken during the first years of the plan. Many plans will include soil sampling during the plan that will change fertilizer recommendation for the field likely changing the manure application rate. The phosphorus loss assessment in many states varies with soil test results and planned manure application rate so the assessment results may be different by the time manure is to be applied five years into the plan. Possible changes in crop sequence in the first years of the plan may force changes in the optimum rate of application by affecting fertilizer recommendations, method of manure application and manure application setbacks.

There are good reasons for changing dates and rates of manure application years, months or even days after the completion of a nutrient management plan. Weather conditions unforeseeable at the time of writing a plan can close a manure application opportunity potentially forcing planned applications off particular fields. Examples include imminent heavy rains and frozen or saturated ground.

A nutrient management plan is built on an estimated volume of manure. Manure volume estimates in the planning process typically represent an average value for what is expected to be generated each year. The planned annual volume of manure typically does not vary from year to year in most plans. Actual volumes of manure can substantially vary year-to-year, particularly in open storages. Most people reasonably do not consider the estimated volume of manure a term of the nutrient management plan; operations should not be cited for failure to meet the terms of the nutrient management plan if manure volume increases by 30% in a wet year or decreases by 30% in a dry year. Other specifics of the plan such as the manure test result, specific

crop on a field, rate of application and time of application similarly cannot be viewed as static terms of the plan.

The true “terms” of nutrient management plan is the system used to determine the actual rate of application. Terms would include:

- The protocol used to sample manure storages and use the resulting samples to estimate manure nutrient concentration.
- The soil sampling strategy for fields receiving manure.
- A source or method for estimating yield goals on fields receiving manure.
- The source of the fertilizer recommendations.
- The phosphorus loss assessment strategy including the interpretation of the results.
- The types of calculations that will be used to determine nutrient availability in the manure.
- The system used to determine manure application setback on fields receiving manure.
- The tactical procedures to insure soil moisture and weather conditions at the time of application are appropriate.

On a fundamental level the nutrient management plan is *how* you determine the rates and dates of manure application. The specific rates and dates provided in an initial five-year plan is a “feasibility study” of your proposed approach. Record keeping *proves* you properly applied the rules of your nutrient management plan when calculating the actual rates applied to a field.

Unfortunately, the preamble to the proposed rule provides a cloudy picture of what EPA wants the states to implement as the terms of the nutrient management plan. In some places the preamble seems to endorse our perspective that the terms of the nutrient management plan is strategic document on *how* rates are calculated. For example, at one point EPA states “*Nutrient management plans are dynamic documents and are developed to accommodate routine variations, for example changes resulting from*

anticipated crop rotation or climatic variability inherent in agricultural operations, as well as changes in numbers of animals and volume of manure, litter or process wastewater resulting from normal fluctuations or a facility's planned expansion.” (FR pg. 37755).

These statements seem to endorse the perspective that a nutrient management plan is a strategic document.

There are also ambiguous statements like *“The terms of the NMP would identify site-specific conservation practices to be implemented by the CAFO and establish site-specific requirements for proper land application of manure, litter, and process wastewater, including application rates.” (FR pg.37753).* This statement could be interpreted to require site-specific rates as a component of the nutrient management plan. EPA also states that *“In preparing an NMP, a CAFO would include both the data necessary to determine the application rates in accordance with the applicable technical standards and the calculations it used to determine those rates.” (FR pg. 37754).*

Showing calculations certainly is an important aspect of how rates are calculated. In true nutrient management plan, not all the data necessary to calculate actual rates of application are available during the initial planning process. The requirement that the plan include “the data necessary to determine application rates” is not consistent with recommended nutrient management practices.

Of concern is language where EPA defines elements of a nutrient management plan *“for which a broadly applicable condition in the general permit would not be possible because they are of necessity facility-specific.”* EPA then states *“A prime example of this third category is the requirement for field-specific rates of application.” (FR pg. 37754).* The preamble further clarifies that *“For example, the permitting authority would need to identify the manure, litter, and process wastewater application rates in each CAFO's nutrient management plan on a site-specific basis and incorporate those rates as terms and conditions of the permit before the permitting authority could authorize coverage of the CAFO under the permit.” (FR pg. 37755).*

At another point EPA suggests that a plan will need to be reopened for public comment with *“... the addition of land application areas not previously included in the nutrient management plan. Specific examples of such changes would include changes to the method of land application from injection to surface application, changes in timing from spring to late fall or winter application, and installation of new drainage systems that would increase runoff from land application fields.”* (FR pg. 37756).

EPA also suggests a system where the nutrient management planner predicts the range of possible cropping scenarios for each field and presents in a matrix the all the possible crop-rate combinations. If we are considering a two-crop rotation with two possible methods of application we will have 32 possible scenarios in two years. Even if we reduce these scenarios to a fraction of the total, managing the scenarios, clearly communicating options to the farmer, and properly calculating nutrient balances will become a nightmare, even with the aid of software.

The repeated inclusion of field specific rates as an example of changes requiring public comment demonstrates that EPA has not fully embraced the strategic nature of the nutrient management plan. The nature of nutrient management is that rates of application, selection of crops, method of application and rate of application routinely change during a nutrient management plan cycle. These changes are inevitable due to changing weather conditions, changing business conditions and the results of testing during implementation of the nutrient management plan. Requiring specific information such as soil test results, manure test results and planned rates or application be part of the NPDES permit insures repeated revisions, frequently with public comment, to manage manure on the farm. The pressure on a farmer will be to avoid changes to his or her plan, even when production or water quality goals may recommend change. Avoiding reopening the permit and potential public review will be a strong disincentive to revising or updating a plan, even when valid nutrient management planning goals would recommend such changes.

The most disconcerting measure of EPA's vision of a nutrient management plan is the template plan provided by EPA as a web link (www.regulations.gov under docket # EPA-HQ-OW-2005-0037). EPA states that *"Such a template would help to systematically organize the information necessary to satisfy the NMP requirements in the regulation."* (FR pg. 37752). The template plan was developed as an example of what could be incorporated into the NPDES permit requirements of a CAFO. The example plan suffers from many limitations and errors:

- The example plan focuses on the data collected at the start of the plan and the rates of application calculated using that data. There is no acknowledgement of or mechanism to incorporate new data into the existing plan.
- The example plan provides no information on the calculations used to determine key elements of the nutrient management plan including manure nutrient availability, fertilizer recommendations, and phosphorus assessment.
- The example plan has many remarkable errors and incomplete requests for information. For example, the manure test results ask for "N" with no appreciation of the form or range of forms that may be needed to calculate availability. Soil test data request is for "N" and "P" (in units of pounds per ton or gallon) with no appreciation for how these elements are incorporated into a nutrient management plan.

We recommend that EPA abstain from providing guidance on the following:

1. The definition of a nutrient management plan, except as a strategic document.
2. The mechanism to incorporate a nutrient management plan into the general permit.
3. Defining what constitutes a significant change in a nutrient management plan.
4. The role of public comment on the nutrient management plan.
5. Template nutrient management plans.

EPA should leave these issues fully up to the states to determine how they are best implemented in their state. Efforts by EPA to establish a national guidance in the preamble demonstrate the pitfalls that befall such efforts while providing simplistic or unworkable approaches to these areas. Such guidance is not needed to insure states understand EPA and the Court's intent in these areas.

If EPA persists in its aspirations to provide guidance on these issues it needs to stringently adhere to a standard that embraces the strategic nature of a nutrient management plan. The key to success is a standard where:

1. The plan tells you how a farmer will evaluate suitability of a field for manure application and calculate a rate on any field they intend to apply on;
2. An example is provided demonstrating the feasibility of the approach;
3. Record keeping requirements document the farmer is meeting the goals of the plan.

There are also references that can be adopted to communicate how a farmer will put together a nutrient management plan. We agree that the NRCS nutrient management standard provides excellent guidance on many aspects of developing a nutrient management plan. We also endorse states approving the use of specialized nutrient management software to help implement and communicate how a nutrient management plan is developed on a farm.

EPA provided detailed guidance defining a significant change to a nutrient management plan that would require review by the permitting authority and possibly public review. In this section EPA provides a mixed message on its interpretation of a nutrient management planning process. EPA details a very workable approach to changes in a nutrient management plan near the end of the section of the proposed rule:

“EPA is also interested in taking comment on an approach that might allow greater flexibility for CAFO operators in making cropping decisions while assuring permitting authorities and the public that they are complying substantively with the terms of the

NMP as incorporated into the permit, even if the CAFO modifies its practices somewhat from those articulated in the NMP and the permit. Under this approach, the Agency would modify the annual report requirements for permitted CAFOs in 40 CFR 122.42(e)(4) to require all CAFOs to submit information with the annual report indicating how the CAFO achieved substantive compliance with the terms of the NMP as set forth in the permit. If the CAFO implemented any cropping options not included in the calculations provided in the NMP, the CAFO would document the procedures and nutrient management practices utilized, including crops grown and fields planted, together with nutrient management calculations that governed its land application practices for the prior calendar year, and explain how the modified cropping options as implemented continued to comply with the substantive terms of the NMP incorporated into the permit.” (FR, pg. 37757).

This approach exactly articulates our suggested approach to nutrient management planning. Operations have a strategy defined in the nutrient management plan to cope with expected and unforeseen circumstances and they use record keeping provisions of the rule to demonstrate successful implementation of nutrient management criteria. From our perspective, this is all the guidance that is needed on nutrient management planning.

Unfortunately, EPA goes on to say *“Under this option, EPA would include guidance in either rule or preamble text on which types of deviations from the NMP would be allowed, and what would be required to demonstrate in the annual report that these deviations substantively complied with the permit terms.” (FR, pg. 37757).* Terms that were considered earlier in this section will unnecessarily promote extensive review and re-opening of permits and in some cases discourage activities we recommend producers pursue to protect water quality.

For example one criterion for review is *“An increase in the rate of nutrients from manure, litter, or process wastewater applied to the land application area that is significant in relation to technical standards established by the Director.” (FR, pg*

37756). The focus of this restriction is on the quantity of manure the operation generates. If the quantity is greater than what was in the plan then the plan and the permit needs to be re-opened. This restriction is independent of any change in animal numbers. Operations, particularly ones with open storages, have significant variations in manure volume. A year when manure volume increases should not be a concern if the operation has a nutrient management plan that details the strategies that will be used to determine application rates on any new fields needed for manure application.

The next point defines a significant change as a change in the nutrient balance:

“(i) An increase in the ratio of animals, manure, litter, or process wastewater to the available land application acreage or storage capacity; (ii) changes in the CAFO’s procedures for handling, storage, treatment, or land application of manure, litter, or process wastewater; (iii) a significant increase in the number of animals; or (iv) a significant reduction of manure, litter, or process wastewater hauled off site when there is no equivalent decrease in the amount of manure, litter, or process wastewater produced.” (FR, pg 37756).

Changes in animal numbers (iii) need not be addressed here because other terms of the permit more clearly dictate the need for updating a permit based on changing animal numbers. Points (ii) and (iv) could frequently be invoked. For example point (ii) could be invoked if an operation moved from injection to surface application of manure. Again these approaches miss the underlying basis for nutrient management planning. EPA should not be focused on a plan details every eventuality in terms of the planned locations of manure application. EPA should instead be focused on insuring that the mechanisms are in place that wherever the operation applies manure it is applying the correct strategic approach to nutrient management. The approach embodied in points (ii) and (iv) erroneously focus on the wrong aspect of the nutrient management plan.

Finally, criterion (4) states that a permit would need to be opened with *“the addition of land application areas not previously included in the nutrient management plan.” (FR, pg 37756).* Typically, we encourage operations to expand the acres available for

manure application whenever possible. Operations will not endeavor to expand their land base after they get a permit if it will require re-opening their permit and the associated public review. This requirement again, falsely defines the nutrient management plan as the specific fields and associated rates, not the approach used to identify appropriate fields and appropriate rates.

We recommend EPA adopt the strategy discussed on pg. 37757 of the FR that defines a mechanism for operations to modify a nutrient management plan without re-opening their permit. We further recommend that EPA not provide guidance on situations when it is appropriate to use this approach, leaving it up to the states to implement the rule.

Public notification to implement or change a NMP is the primary difference between implementation of a NMP on a permitted operation and an unpermitted operation. An operation that fully implements an NMP will have met most permitting requirements except the public comment provisions. Adoption of workable standards for public comment on a strategic NMP is the key to encouraging more operations to voluntarily obtain a permit, an activity we endorse.

Table 1 outlines appropriate and inappropriate integration of selected potential elements of a nutrient management plan.

Table 1. Examples of nutrient management topics and appropriate and inappropriate implementation in a nutrient management plan.

Topic	Appropriate implementation	Inappropriate implementation
Field nutrient balance	A five year nutrient balance will be calculated on all fields receiving manure. On fields rated high potential for phosphorus loss, no manure application will exceed the planned five-year phosphorus removal capacity of the field, there will be no applications on fields with more than two years of residual phosphorus in the soil and the total P applied will not exceed the five-year phosphorus removal capacity of the soil.	The nutrient management plan includes a table with the planned phosphorus balance for each field.
Soil testing	Soil tests to assess soil test phosphorus, soil test potassium, soil organic matter, cation exchange capacity, and pH will be taken at least every five years. Sampling will be based on methods in University of Missouri Nutrient Management Guides G9215 and G9217. Fields will be re-sampled before manure application if total phosphorus applied to the field has exceeded the greater of the five-year recommended rate or the five-year removal rate for the field.	A table of soil test results.
Phosphorus assessment	The Missouri phosphorus index or the agronomic approach will be used to assess phosphorus loss from all fields receiving manure that are controlled by the operation. No manure applications will occur on fields rated very high in phosphorus loss assessment. Phosphorus-based management will be required on fields rated high. The assessment must be repeated when new soil test results or substantial changes in management practices such as tillage are likely to affect the assessment of phosphorus loss.	The plan requires reporting the method of phosphorus loss assessment and the results for each field.
Fertilizer recommendations	Fertilizer recommendations will be based on University of Missouri recommendations as calculated in Purdue's Manure Management Planner. Fertilizer recommendations will be updated whenever new soil test results are available.	A table fertilizer requirements for each field.

Topic: Deadline for implementation

Our Concern:

The *Federal Register* (p. 37748) states that “EPA extended the date by which operations defined as CAFO's as of April 14, 2003, who were not defined as CAFO's prior to that date, must seek NPDES permit coverage, from February 13, 2006, to July 31, 2007. EPA also amended the date by which operations that become defined as CAFO's after April 14, 2003, due to operational changes that would not have made them a CAFO prior to April 14, 2003, and that are not new sources, must seek NPDES permit coverage, from April 13, 2006, to July 31, 2007. Finally, EPA extended the deadline by which CAFO's are required to develop and implement nutrient management plans, from December 31, 2006, to July 31, 2007.”

EPA, in their preamble to the proposed rule, appears to assume that states have already adopted the provisions of the 2003 rule. Thus, states would simply need to rescind provisions of the vacated rule and replace them with the language of the 2006 proposed rule. Because critical parts of the rule were under judicial challenge, this was not the procedure followed by Missouri and likely by other states as well. Given the fact that many states stopped their rulemaking adoption of the 2003 rule pending resolution of the *Waterkeeper* issues, EPA must realize that the proposed July 31, 2007 deadline is unrealistic and unattainable for either states or producers. We document the process through which Missouri will make it's state-level regulations meet the EPA requirements and the method for producers to come into compliance with state and federal rules to illustrate this point.

Missouri must wait until this regulation is finalized by EPA before it can make the necessary changes in the state rules and regulations. In particular, EPA's draft rule leaves significant uncertainty in how the nutrient management plan requirement can be met by operations. Missouri is in compliance with the current EPA regulation and all those CAFO's in Missouri needing NPDES permits, under both existing and proposed regulations, have current Missouri operating permits. Thus, the changes needed in

Missouri's rules are largely those that will be required to meet the changes proposed in this proposed 2006 regulation. Given the large questions unresolved in the current draft, Missouri can not work forward until those issues are resolved in EPA's final regulation.

Under the Missouri Department of Natural Resources plan for public involvement, which has been approved by EPA, the department will form a work group to resolve issues related to the new CAFO regulation. We anticipate that the group will take at least 6 months after EPA finalizes the regulation to complete this part of rulemaking. The department will then provide for public comment on the proposed rulemaking, requiring another 4-6 weeks. Only after the department has addressed the comments received during this time can the rule be brought before the Missouri Clean Water Commission for approval. The rule must then be published in the Missouri State Register before becoming effective. From start to finish, rulemaking takes a minimum of 12 months and commonly takes 18 months.

Once rulemaking has been completed, the Missouri Department of Natural Resources can begin to accept permit applications from those who wish to meet the new rules (and therefore EPA's regulation). Upon receipt, the permits, including the nutrient management plans, will have to be reviewed by staff and approved before a new permit can be issued. The Missouri CAFO General Permit was issued in 2006, and includes most of what is needed for a strategic NMP. EPA's requirement that all the existing permits be reissued with nutrient management plans will create a huge backlog of work for the permitting agencies. This backlog will take months to resolve and will not allow operators to meet the EPA deadline of July 31, 2007 for the implementation of nutrient management plans.

The ability of operators to create nutrient management plans in time to meet the deadline is also very questionable. There are simply not enough trained NMP writers to meet the deadline. If EPA adopts NMP criteria that vary greatly from those of NRCS, producers not enrolled in NRCS programs will face the additional hurdle of finding

someone who understands the version of a nutrient management plan that EPA requires. Unless EPA commits to this training an all fifty states, NMP preparation will suffer significant delays. In other words, EPA can compound the scheduling problem significantly by not allowing states to implement the NMP requirement based on conditions and expertise in their states.

Our permitting staff is sized to meet the on-going permitting load, not a greatly inflated reviewing load, including hundreds of nutrient management plans. For Missouri to review all the nutrient management plans on such an expedited schedule would severely impact Missouri's ability to implement the CAFO program due to the added burden of the review and approval of nutrient management plans with the compressed timeframe indicated in the proposed rule. Thus the dates proposed would actually compromise Missouri's ability to protect water quality during the significant time needed to meet EPA's deadline.

Unless EPA moderates their demand for compliance with the new regulations, many producers will be forced out of compliance by this unreasonable deadline because of the lack of trained NMP creators and state regulatory review demands.

Recommendation:

We strongly urge EPA to allow states to allow current permit holders to operate under their current permits until expiration regardless of the issuance date of the permit. This will allow states to work on getting state rules aligned with the new requirements and working with applicants building new or expanding facilities to meet conditions of the new regulations.

Missouri would like to offer EPA an alternative approach to the proposed implementation schedule. If a state could show that meeting the July 31, 2007 for nutrient management plans would be less protective of water quality than allowing current permits to run their course, EPA should allow a waiver to that requirement. We believe that Missouri could present a compelling case.

Topic: Who is Required to Have a Nutrient Management Plan to Qualify for the Agricultural Storm Water Exemption?

Specific EPA Questions:

- *EPA also seeks to clarify how unpermitted CAFOs may meet the agricultural storm water exemption when they land apply manure, litter, or process wastewater. (FR pg. 37748).*
- *EPA is considering requiring explicitly that Large CAFOs that are not permitted because they do not discharge or propose to discharge comply with the technical standards for land application established by the Director (in addition to meeting the requirements of 40 CFR 122.42(e)(1)(vi-ix)) in order for runoff from their fields to be considered agricultural stormwater (which is exempt from permitting requirements). Even if EPA does not adopt this requirement explicitly, EPA believes that unpermitted Large CAFOs should incorporate the technical standards established by the Director into their NMPs. EPA also recommends that small or medium AFOs use nutrient management practices consistent with 40 CFR 122.42(e)(1)(vi-ix) and comply with the applicable technical standards in their land application of manure, litter, or process wastewater. EPA requests comment on this issue. (FR pg. 37750).*

Our Concern:

The 2006 revised rule proposal could make all nutrient management plans and associated record keeping on animal feeding operations regulatory documents fundamentally changing the nature and intent of nutrient management plans on most animal feeding operations.

Everyone agrees that animal feeding operations should have a nutrient management plan and keep records. This debate is about underlying nature of the nutrient management plan and associated records.

In the past, nutrient management plans on un-permitted operations have been voluntary, strategic planning documents. The 2006 revised rule proposes that nutrient management plans and farmer records would become a regulatory document subject to inspection and potential regulatory liabilities for deficiencies under the Clean Water Act.

EPA has presented competing visions for a nutrient management plan in the proposed rule. In other comments we emphasize regulatory nutrient management plans will be difficult to implement if EPA fails to define the nutrient management plan as a strategic document.

The requirement that un-permitted operations have an obligation to meet certain terms and conditions of a permit that does not apply to them is a unique regulatory construct. Insufficient information is provided in the preamble on the justification and implementation of the nutrient management requirement on un-permitted operations.

Recommendation:

EPA explicitly states that provisions of the proposed rule limiting the applicability of the agricultural storm water exemption on animal feeding operations do not apply to small and medium animal feeding operations.

EPA should clarify their jurisdiction and the mechanisms used for enforcement of nutrient management plans on un-permitted concentrated animal feeding operations.

Comment:

In section 502 (14) the Clean Water Act in the definition of the term “point source” it explicitly states that “This term does not include agricultural storm water discharges and return flows from irrigated agriculture.”

In the February 12, 2003 revision of the CAFO rule EPA stated that “EPA is clarifying in today's rule that discharges of manure, litter, and process wastewaters from the land

application areas of a CAFO are agricultural storm water discharges where the manure or process wastewater has been applied in accordance with site-specific nutrient management practices that ensure appropriate agricultural utilization of the nutrients in the manure or process wastewater.” The February 28, 2005 2nd Circuit Court ruling on the revised CAFO rules did not explicitly accept or reject this interpretation of the agricultural storm water exemption.

It is clear that permitted CAFO’s require a nutrient management plan to qualify for the agricultural storm water exemption if you accept EPA’s view that such plans are needed to qualify for the exemption. The primary issues this comment addresses are:

- Do un-permitted operations require a nutrient management plan to qualify for the agricultural storm water exemption, and
- The implications if such a requirement exists for un-permitted operations.

EPA clearly intends that un-permitted CAFO’s, the large animal feeding operations that do not get a permit because they do not discharge, be required to have a nutrient management plan and associated record keeping in order to maintain their agricultural storm water exemption. In an expansion of the wording from the 2003 rule, EPA states in the preamble to the 2006 proposal that all CAFO’s must have a nutrient management plan in order to qualify for the agricultural storm water exemption. Their logic is that such a plan and the associated record keeping is needed, by definition, for the runoff from the fields to be considered agricultural storm water runoff. Without the nutrient management plan the runoff from the field would be considered a point source, requiring a permit, according to EPA logic in the preamble of the proposed rule.

One of our questions is what prevents this logic from being applied to all animal feeding operations, resulting in a regulatory requirement that all animal feeding operations must have a regulatory nutrient management plan. It seems that if EPA requires un-permitted CAFO’s to have a regulatory nutrient management plan that it is difficult to not

imply that medium and small animal feeding operations also must have such a regulatory plan unless EPA explicitly states otherwise.

EPA currently does not require small and medium animal feeding operations to obtain a permit unless they have some form of conveyance that discharges to the waters of the United States. If an operation has such a conveyance, it must have an NPDES permit, independent of size. Following this logic, small and medium operations who failed to also show they were following a nutrient management plan would, like large un-permitted operations, now be considered point sources. It does not seem intuitive that discharge rules could apply to medium and small CAFO's and nutrient management rules do not.

If EPA does not want to have a regulatory requirement that a medium or small CAFO have a nutrient management plan and associated record keeping in order to qualify for the agricultural storm water exemption, EPA needs to explicitly state in the rule that the regulatory requirement does not apply to these smaller operations. Such clarification was apparent in the 2003 revised rules when EPA explicitly stated that requirements for animal feeding operations to qualify for the agricultural storm water exemption were not intended to apply to the applicators of fertilizers and pesticides.

Everyone agrees that all animal feeding operations should have a nutrient management plan and keep records. Shifting a nutrient management plan from a voluntary strategic planning tool to a required regulatory document could have far reaching effects on the implementation of nutrient management on un-permitted operations. There is a significant change in the nature of a nutrient management plan when it is an EPA requirement to maintain an agricultural storm water exemption. When the document becomes a regulatory document the following fundamental changes take place:

- The plan must meet the requirements of a regulatory plan or the USDA comprehensive nutrient management plan standards.
- The plan and associated records must be maintained on location and available for inspection.

- If, in the course of an inspection, the inspecting authority requests a copy of the nutrient management plan and/or records, they become public documents.
- Failure to meet EPA requirements for the nutrient management plan and record keeping will make the operation liable for citation for violating the clean water act and potentially required to obtain an NPDES permit.

A nutrient management plan, as required by EPA, is fundamentally different from the nutrient management plan currently used by un-permitted animal feeding operations.

The current voluntary plans used by these operations are strategic documents providing a suggested course of action for the management of manure and fertilizers on a farm. There is an expectation that the farmer will not be able to follow all the details in the plan because of the impact of weather and other unforeseen circumstances. Voluntary plans acknowledge their strategic nature by including guidance on when conditions at the time of manure application require a tactical decision to deviate from a specific date and rate of manure application on a field.

In current voluntary plans there is an expectation the farmer will not be able to meet all the dates and rates of application stipulated in the plan. The plan is guidance on how to proceed and when circumstances force the farmer to deviate extensively from the plan the farmer is advised to consider having the plan revised to meet the new conditions. Revisions are typically contemplated on an annual basis at the shortest in this voluntary nutrient management planning world.

The exact nature of a regulatory plan has not been fully resolved in the current EPA proposal. We have submitted other comments on the guidance EPA should provide on the definition of a nutrient management plan. The full burden of converting a nutrient management plan to a regulatory document cannot be assessed until the plan has been defined by EPA or the states.

If regulatory standards embrace the concept that terms of a nutrient management plan determine the rate of manure application for a field, the regulatory burden of nutrient management plans on un-permitted operations will be mitigated. A more inflexible definition focused on incorporating specific dates and rates into the terms of the nutrient management plan would create the greatest potential problems for un-permitted operations maintaining a nutrient management plan to maintain their agricultural storm water exemption. Farmers frequently have good reason to apply manure at rates that do not coincide with the planned rates in a nutrient management plan. An inflexible definition of a nutrient management plan focused on dates and rates will leave smaller operations liable for violations when they make these changes.

This rule may result in un-permitted operations having a regulatory requirement to have a nutrient management plan and require those operations to keep records to demonstrate they have been following the plan. EPA needs to better define the relationship these operations have with regulatory authorities and the general public. In reviewing the proposed rule we believe the following is true:

- It is our understanding that the nutrient management plan will not be a public document on un-permitted operations. The operations must maintain the plan and associated record keeping on-site.
- There is no mechanism or intention that the nutrient management plan for an un-permitted operation will ever require any sort of public review.

In short, EPA is implying in the proposed revision that the plan that is written for un-permitted operations and the associated record keeping are not public documents and not subject to inspection by the general public.

The preamble of the proposed rule EPA does a poor job of describing how the expectation that an operation has a nutrient management plan fits into the regulatory world of permitted operations. It is unclear in the proposed rule the situations where an un-permitted operation could be inspected by a regulating authority and which regulating authority would be responsible for these operations. We have the following questions:

- Can an un-permitted operation that is apparently doing nothing wrong have their nutrient management plan and associated records inspected? We contend that there is no basis for an operation that has no complaint filed against it to be inspected by a regulatory entity. Currently, inspectors cannot inspect a small or medium animal feeding operation unless they have cause to believe the operation is discharging manure into waters of the state. Does this same standard apply to inspections of the nutrient management plan on un-permitted operations?
- What is the standard for a valid inspection of an un-permitted operations nutrient management plan? The proposed rule provides no guidance on what indicators would be considered justification to the regulating entity for an inspection of an un-permitted operation's nutrient management plan. Some standard needs to set for justifiable concern that the operation is not following a nutrient management plan. Would the following neighbor complaints be considered sufficient justification?
 - I observed what seemed like excessive erosion from a field that receives manure.
 - It seems like they always put manure on that field, they must be putting too much on.
 - We are having a drought year. I expect they over estimated yield goals on this field so too much manure must have been applied.
 - No crop was planted on that field this year. Did they really plan on leaving that field fallow in their plan?

The nutrient management plan touches on many aspects of farm management opening the farmer to a wide range of potential complaints. EPA needs to consider what safeguards can be put in place to protect farmers from nuisance complaints and give a reasonable expectation that they will not be subject to inspection if they are following a nutrient management plan.

- What level of inspection of an un-permitted facility results in the release of their nutrient management plan as a public document? The nutrient management plan on an un-permitted operation should not be, by default, a public document. However, if the operation is inspected there is potential for the plan and associated records to

become part of the public record as part of the documentation of a complaint investigation.

- Who will have jurisdiction on handling complaints based solely on potential violations of the agricultural storm water exemption? EPA is asserting an *expectation* that un-permitted operations must have a plan. This expectation may not be codified in state rules that are developed for permitted operations.

EPA has entered new territory with the regulatory requirement for a nutrient management plan on an un-permitted facility. In the past un-permitted operations had to violate the clean water act through a release of manure or waste water to waters of the state before they could be held to the permit standards. So, for example, an operation could have a storage that did not meet the design standards for permitted operations as long as the storage never had a discharge. If a discharge took place, then they could be required to get a permit and the storage would need to meet the design standards for permitted operations. In the case of nutrient management plans, EPA is requiring an un-permitted operation to meet a standard with no evidence that they are impairing waters of the state. They are claiming an operation must meet conditions of a permit that does not apply to their operation. EPA must acknowledge the unusual nature of this request and provide much clearer guidance and justification for the regulatory structure that un-permitted operations will need to negotiate.

We recommend EPA consider returning to an approach that applies an obligation to meet the terms of a permit only to operations that have a need for a permit.

Topic: Should changes in application area constitute a significant change to an NMP?

Our Concern:

As stated in the Federal Register (p. 37756), under this proposal, *“EPA is proposing that substantial changes would include, but are not limited to: ...(4) the addition of land application areas not previously included in the nutrient management plan.”*

EPA claims in the Federal Register (p. 37755) that, *"Most routine changes at a facility should not require changes to the NMP itself because of the way NMP's are developed. Nutrient Management Plans are dynamic documents and are developed to accommodate routine variations, for example changes resulting from anticipated crop rotation or climatic variability inherent in agricultural operations..."* and *"EPA encourages CAFO operators to develop, at the outset, NMP's that thoughtfully anticipate, to the extent feasible, all contingencies and changes in operations that may occur over the course of the permit."*

Many CAFO's in Missouri spread manure or litter on land not owned by the CAFO operator. The most common changes in a strategically-based nutrient management plan are those related to the loss of an application area because of a change in land ownership or changing cropping patterns on land not owned by the CAFO operator. While some of these changes can be anticipated, it is unreasonable to assume that all land application availability changes that will occur over the five-year term of the permit can be.

This requirement is very likely to significantly increase the workload for CAFO operators and state regulatory staff with little gain in water quality protection. Multiple amendments to NMP's can be anticipated for nearly every CAFO over the five-year permit period unless EPA relaxes this proposed change..

Recommendation:

Missouri strongly urges EPA to allow states to allow limited changes in land application area without triggering the public notice provisions of the regulation. We believe that alternative methods for working with CAFO operators when small changes in land application areas are required because of changes in land ownership can be protective of water quality and provide for informing the affected members of the public.

Topic: What are the costs of implementing the new regulation?

Our Concern:

As stated in the Federal Register (p. 37775), *"Overall, under Baseline A as previously described, the administrative burden under the proposed rule (i. e. the difference between Baseline A and the proposed costs of the proposal) is projected to decline to a total of approximately \$64 million, which constitutes a reduction of roughly \$15 million compared to the 2003 CAFO rule."*

EPA estimates in the proposed rule that the direct economic impact to producers will be approximately \$43.4 MM. Based upon the number of CAFO's Missouri currently has under permit and the number of CAFOs indicated in Table 1 of the proposed rule, Missouri's portion of the economic burden will be approximately \$1.5 MM. The EPA's estimates of costs to producers appear to be low. We believe that the economic impact of the rule on producers could be great and must be better defined by EPA in this rulemaking.

We believe that EPA has severely underestimated the costs associated with implementing the new regulation. Based upon the number of CAFO's Missouri currently has under permit and the number of CAFOs indicated in Table 1 of the proposed rule, Missouri's portion of the economic burden will be approximately \$1.5 MM. NRCS estimates the cost of preparing and implementing a NMP to be \$25/acre/year. This value was derived from experience and thus provides a good basis for calculating likely costs of writing NMP's. Given that the approximate number of spreading acres covered by permits in Missouri is 100,000 a more appropriate cost to Missouri producers would be \$2.5 MM. Note that this is the only cost to create the NMP's, obviously implementation and record-keeping costs must be added to this estimate. Over the term of a permit (five years), the costs of complying with all the documentation requirements of this regulation can be significant.

We believe that the economic impact of the rule on producers could be great and must be better defined by EPA in this rulemaking.

If EPA requires all AFO operators to create NMP's in order to qualify for the agricultural stormwater exemption, the costs realized by producers under this regulation are significantly higher than indicated. EPA should closely examine the impacts of NMP requirements for non-permitted facilities on regulatory agencies. This provision of the proposed regulation will place a significant additional workload on regulatory agencies by requiring extensive paperwork reviews in response to alleged violations of NMPs by unpermitted facilities.

If EPA insists on a "rates and dates" approach to NMP's rather than viewing the NMP as a strategic plan, the costs of implementing the new requirements will be significantly higher.

There is also an indirect cost that EPA appears not to have considered. The cost of permits will have to rise significantly in those states that fund their permitting programs through fees. While Missouri has many of the conditions of strategic nutrient planning in its permits, a "rates and dates" approach to NMP's will require significant additional review time and thus costs. Until EPA determines which approach to nutrient management planning that it intends to require the absolute costs of permitting can not be accurately determined.

In addition, the public notice requirement for the NMP will add to the cost of the review process regardless of form. Instead of putting the overall general permit on public notice once every five years, EPA now requires that each individual general permit be put out for public review.

In addition, EPA's requirement that new spreading acres be subject to the public notice provision creates a continuing and heavy burden on producers and the regulatory agencies. This one requirement will greatly increase costs to states that administer

NPDES programs. These additional costs will have to be borne by operators or the public and will multiply the costs of the new proposal significantly beyond those expected if this provision of the rule were to be deleted.

EPA has also failed to estimate the additional enforcement costs of the proposed regulation. If a complaint leads to an investigation of a possible discharge from a non-permitted facility, the department will have to review all the elements of the nutrient management plan and its implementation in order to determine whether an unpermitted discharge has occurred. This process is much more time intensive than previous approaches.

Recommendation:

EPA must re-evaluate the costs to implement the requirements of this rule. Due to the costs associated with this rule, EPA should consider additional federal funding for states to implement this rule.

EPA should evaluate the costs of the various options presented to accurately assess the implications of these decisions on producers and states. The use of an approach to nutrient management that differs significantly from that used by NRCS will cause an appreciable cost to producers. The decision that new land application areas constitute a significant permit modification and requires public notice will drive the costs to producers and states significantly higher than estimated by EPA. These two options should be rejected because of their cost implications and difficulty in implementation.

Topic: When Does an Existing Operation Become a “New Source?”

Our Concern:

No definition exists for clarifying when an existing operation becomes a “new source.” This will lead to uncertainty on the part of producers who wish to expand or improve upon their existing operation.

Because the Final CAFO Rule published in February 2003 contains the provision of the design standard for new swine, poultry and veal operations (to which this revision applies), the zero-discharge standard appears to apply to any operations constructed since the publication of the 2003 CAFO Rule. We are concerned that these new sources are not capable of meeting this new standard and will find it cost-prohibitive to retrofit existing manure storage structures to achieve a zero-discharge standard.

Recommendation:

Clarity needs to be provided by the EPA regarding what constitutes a “new source” for swine, poultry and veal operations. For instance, if an existing swine operation is currently considered an AFO based on animal numbers, but wishes to double its capacity such that it qualifies as a CAFO based on animal numbers, does this become a “new source” and subsequently fall under the NSPS? Likewise, if an existing swine CAFO that utilizes an open anaerobic lagoon expands its production by, for instance, five times and utilizes deep pit manure storage for the new facility but maintains the anaerobic lagoon for the original facilities, does this operation, as a whole, fall under the NSPS?

Clarity needs to be provided by the EPA regarding the requirement for facilities built since February 2003 to meet the zero discharge standard proposed in this revised rule.

Retrofitting existing swine, poultry or veal operations that utilize “open air” manure storage to contain all manure and process waste water under roof will be extremely costly as would converting a flush-type manure collection system to a deep-pit manure collection and storage system. We recommend that, if EPA maintains the proposed design standard for new source swine, poultry and veal facilities, they enforce this new standard on forward from the time when this rule revision is finalized rather than retroactively imposing it to structures built since the Final Rule was published in February 2003.

Topic: What relationship and implications exist for integrating the NMP with the NSPS?

Specific EPA Questions:

- EPA solicits comments on the appropriate time limit for public review of the NOI and proposed permit conditions incorporating the terms of the NMP into the permit, as well as on fixed minimum time frames for public review, such as 7 days, 15 days, 21 days and 30 days (*Federal Register*, p. 37753).
- CWA section 402(b)(3) provides that the Administrator, in approving State programs, shall make sure adequate authority exists to ensure notice to “any other State the waters of which may be affected” and Section 402(b)(5) provides that the Administrator must insure that any State whose waters may be affected by the issuance of a permit may submit written recommendations to the permitting State” and that if those recommendations are rejected that the permitting State notify the affected State in writing of the reasons for the rejection... EPA solicits comments from States and other interested parties as to whether this approach is adequate or whether there are specific requirements for review by affected States that should be added to this proposal (*Federal Register*, p. 37753).

Our Concern:

The details within the NMP are an integral part of obtaining the “zero discharge designation.” Spreading capabilities and availabilities need to be documented to ensure that sufficient quantities of effluent from an “open air” containment structure can be land applied at agronomic rates to prevent the system from discharging due to precipitation events. Therefore, details of the NMP will likely need to be incorporated into the permit.

NMP implications with respect to open NPDES permitted facilities include but many not be limited to the following:

- a. Spring and fall application windows will most likely need to be incorporated into the NMP to ensure sufficient time for pumping manure.

- b. Application quantities for any given window will be variable and probably should “empty” the storage component of the system.
- c. A sufficient quantity of land application area (cropland or grassland) will probably need to be available in both spring and fall spreading windows to apply total volume available in storage regardless of whether the storage is full or not.
- d. When a "catch up spreading" option is required to empty the storage of an 'open' system, how will a "catch up" option be incorporated into a NMP, especially if public comment is required for any spreading area change?
- e. When spreading windows are lost due to unfavorable weather or soil conditions, the storage component may have more than one year's worth of nutrients. How can a NMP allow for “catch up spreading” with regard to available crop acres? Additional land will be needed for agronomic application compared to that needed for scheduled annual application. Is it reasonable to spread manure effluent on growing crops if a spring spreading window is lost due to wet weather conditions during the spring cropping season?

Recommendation:

We recommend that, for general permits, a universal NMP be submitted with permit applications containing decision-making tools used by producers to determine application rates, dates, and methods rather than including site specific information in the permit. This allows for public comment to occur on this universal NMP and reduces the number of comments that the state regulatory agencies would need to review and consider if comments were submitted for each individual NMP submitted for a general permit. In addition, we feel that by incorporating site specific NMP details into a general permit, you are fundamentally creating a site specific permit.

A typical public comment period for permit applications in the State of Missouri is 30 to 45 days, and we recommend a similar comment period for review of NMPs submitted as a portion of the permit application.

Extensive comments on nutrient management plans are contained in another section of this comment packet.

Topic: Is the Design Process Feasible?

Specific EPA Questions:

- EPA solicits comments on this approach to demonstrating that an open storage system meets the no discharge requirements and providing an alternate approach for facilities that comply with the enforceable design, construction, operation and maintenance measure developed under the approach (*Federal Register*, p. 37762).
- EPA solicits comments on this approach to streamlining the evaluation process for those CAFOs submitting “pre-approved” designs and operational procedures (*Federal Register*, p. 37762).

Our Concern:

The Waterkeeper decision remanded the NSPS for swine, poultry and veal, stating that “...*substantially preventing discharges is not the same as prohibiting them outright. With respect to the alternative performance standards, the court held that EPA had not justified its decision to allow compliance with the no discharge standard through an alternative standard permitting production area discharges so long as the aggregate pollution to all media is equivalent to or lower than that resulting from the baseline standards.*” As a result of the remand, EPA proposed in 40 CFR 412.46(a)(1) that open manure storage structures undergo design evaluation using the NRCS’s AWM software and rainfall modeling using SPAW. However, the proposed new source subpart D design standard is essentially a precipitation-based design standard in disguise.

The Clean Water Act requires that EPA promulgate NSPS standards that “reflect the greatest degree of effluent reduction which the Administrator determines to be achievable through application of the best available demonstrated control technology,

processes, operating methods, or other alternatives, including, where practicable a standard permitting no discharge of pollutants.” We believe that the NSPS promulgated misses this requirement in two aspects. First we dispute that any CAFOs utilize the AWM software and SPAW modeling as a “technology standards” at all. Second, we believe that EPA did not properly consider all aspects of developing the technology standards.

AWM Software and SPAW modeling

The “design” step (*Federal Register*, p. 37761) describes using the Animal Waste Management (AWM) software from NRCS. The “evaluation” step describes modeling using the Soil Plant Air Water (SPAW) Hydrology Tool to incorporate weather events and data to determine if/when a discharge might occur.

In developing the NSPS for a category, the EPA is required to determine the best available demonstrated control technology. We believe that the proposed requirements fail the test of a demonstrated technology. In Missouri, NO operation actually utilizes the SPAW modeling to our knowledge. In fact, we are not even aware that the NRCS’s AWM software is being used for design of animal waste systems in Missouri. Given that knowledge, it is doubtful that the proposed technology standard is being utilized by any facilities in the United States.

We understand that the EPA is attempting to find a way to evaluate open containment structures to determine that they are zero discharge structures, but the proposed NSPS falls well short of that standard. The very fact that the standard utilizes a model demonstrates that the standard is not zero discharge. Modeling is simply an attempt to predict the system’s function. It is impossible to state that a system designed using a model will never discharge under any precipitation event. This will set up a conflict where the design engineer will be required to certify that a system is zero discharge when the model only shows that it is zero discharge under the data that was inputted, which will not be zero discharge.

This leads to the next point regarding the use of a model. This design process, though not described as a design based on a design storm per se does, in fact, utilize a given precipitation database. The use of the state models requires the use of data, or rather a design storm. The data files for the AWM software available for Missouri utilizes the 1 in 25-year 24-hour storm event. The standard proposed does not establish a design standard for the AWM software. The SPAW model likewise is inadequate for determining a worse case scenario. It is entirely possible that the 30-year historical data for an area may not even contain a storm event of 1 in 25-year 24-hour proportion. In fact we again question whether operations are even using 30-year historical data as a demonstrated technology. Therefore, EPA is proposing that manure storage structures be designed based on historic precipitation data, though the success of the structures can not be guaranteed and no provision exists for describing an allowable discharge. Essentially, EPA is prescribing a design standard, but not allowing consideration for precipitation events that fall outside the design parameters.

Precipitation data utilized in the AWM program spans a period of 30 years (1974-2004). For Missouri, the precipitation record with which the zero-discharge analysis will be conducted includes data from significant precipitation events that occurred in 1993 and 1995. These events, which may be classified as chronic rather than catastrophic events, may skew the model used to verify a storage structure's "zero discharge" status leading to a structure sized larger than needed.

The proposed regulation's new source performance standards for swine, poultry and veal are fundamentally equivalent to the existing standards, but require significantly more effort to achieve the design volume for a storage facility. The proposed regulation states that a producer can not use a design storm event to determine a zero discharge standard, but a producer can derive a zero discharge standard from a model that uses the same or similar precipitation data as its critical input.

The very fact that the model is derived from precipitation records makes it the equivalent in everything but name to a design storm requirement. The end result will still produce a

design storm event, but now EPA has removed any certainty from the standard. The main difference of this proposal is that producers will have to invest time and money in searching for the data to derive the standard that should apply at their particular site and get greater uncertainty in return and they will use a prescribed computer program and hydrology model to achieve this design standard.

AWM serves very well as a design aid for sizing manure storage structures on the basis of animal and environmental inputs all of which can be done “by hand.” However, it was not intended to be utilized as a regulatory tool. Additionally, the database from which AWM draws to determine manure storage size is able to be edited by the user, thereby making it possible to adjust manure and nutrient excretion data as desired to fit a specific situation. Given that this capability exists, it will be necessary for a certified individual (likely a licensed engineer, or P.E.) to validate any storage system sized based on this model and affix their seal to the design.

Likewise, the SPAW model is designed to allow variability in database values through user input. Precipitation data may be edited by the user and runoff curve number (CN) is a user-defined value. By altering the CN and the precipitation database, a user could essentially alter the model’s output to meet individual objectives. In addition, a reliable quantity of 100 years of daily time step climate data does not exist for any place in the continental US, as required in such an evaluation. Such an evaluation should not exceed 20-30 years which is the intended life of such facilities.

Finally, listing specific models in statute is poor rulemaking. We liken this to requiring a regulatory authority to require all documents to be submitted in Word Perfect 5.1. Years later such software tools no doubt will become antiquated. The use of daily time step effluent models as regulatory tools are well established in other countries, such as Australia, where a model called the Model for Effluent Disposal and Land Irrigation (MEDLI) is widely accepted and used to estimate discharge frequencies from storage structures using land application systems. For example, pond and irrigation systems in Queensland are allowed to discharge once every 10 years, and the model is used in

this way to size the pond and irrigation system. The model and development is managed and distributed by the regulatory authority. We recommend that if EPA is going to require such an evaluation to show a “no discharge” status, that the language in the *Federal Register* be more vague to allow other models, or processes, to be allowed. The development of such evaluations is a dynamic process and must allow for improvement as better models and methods are developed.

In addition, the language of the NSPS reads, 412.46 (1) *Any CAFO subject to this subpart may request that the Director establish NPDES permit best management practice effluent limitations designed to ensure no discharge of manure, litter or process wastewater based upon a site-specific evaluation of the CAFO’s open surface manure storage structure. In the case of any CAFO using an open surface manure storage structure for which the Director establishes such effluent limitations, “no discharge of manure, litter, or process wastewater pollutants,” as used in this section, means that the storage structure is designed, operated and maintained in accordance with best management practices established by the Director on a site-specific basis after a technical evaluation of the storage structure.*

The language in section 1 of 412.46 appears to suggest that the Director establishes best management practices and effluent limitations for said sites. For most situations, facilities are similar in that it is just a matter of how “big” the pond needs to be. Recommendations related to this issue may be found below.

Consideration of Technology

We are further questioning whether EPA has properly considered the technologies utilized in animal agriculture. It appears that the only technology that EPA has considered in its establishment of zero discharge is storage. Open containments are not singularly utilized for storage. Many lagoons are utilized as treatment units for nitrogen reduction. This treatment cannot be done in deep pit systems, which it appears that the EPA has used to establish the zero discharge standard.

To further support the fact that EPA has not appropriately considered utilization of lagoons for nitrogen reduction as a demonstrated technology standard is the Premium Standard Farms settlement. In the PSF settlement, the US EPA has required PSF to perform significant nitrogen reduction. This nitrogen reduction that EPA has mandated would likely be cost prohibitive if required to be covered or contained in a zero discharge manner. We also note that EPA is given “considerable discretion to weigh and balance the various factors required by statute to set [NSPS],” *Riverkeeper, Inc v. EPA*. It is our opinion that covered treatment operations, including digesters, will not be economically viable as a best demonstrated technology.

Recommendation:

Five options exist for meeting the zero-discharge requirement for new swine, poultry and veal operations with “open air” manure containment structures:

1. Increased volume of primary storage cell
2. Additional storage cell
3. Emergency storage basin
4. Exclusion of water from storage basin utilizing an impermeable cover
5. Total confinement of all production and manure storage areas

Any additional storage volume beyond that required to contain the process wastewater and precipitation during the design period (options 1, 2 & 3) will result in collection of excess storm water (larger surface area collecting storm water). Collection of this excess storm water will dictate that operations incur additional expense for land-applying the waste water. Although the volume of waste water handled from a storage designed in this manner will increase, no increase in value of the effluent will be realized.

Exclusion of water from the storage basin through the use of impermeable lagoon covers is infeasible due to management and safety concerns with these types of covers,

as indicated in University of Missouri comments to the EPA on the “Concentrated Animal Feeding Operation Proposed Rule” in 2001.

Any system where the animals and manure storage are completely contained under a roof will be capable of complying with the “zero discharge” standard. Therefore, it appears likely that “open air” manure storage structures will no longer be recommended for new swine, poultry and veal operations.

Missouri recommends that the US EPA reconsider the NSPS best demonstrated technology in two respects. First of all, the EPA must promulgate a technology standard that is actually being utilized in the industry. A pseudo model that might or might not represent current design practices is not appropriate as a regulatory standard. We recommend utilization of a standard engineering practice such as a design storm event. If this is not possible, due to the Second Circuit Court’s ruling, we suggest EPA conduct a study to prove that the proposed design process is sufficient to ensure a zero-discharge standard or that the 100-year, 24-hour design standard is adequate to meet this standard and fulfill the request of the court.

The AWM program and SPAW model are not intended to be regulatory tools and are not designed specifically for modeling the effects of precipitation on a manure storage structure. Likewise, both models allow for user input and manipulation of the database. This may result in mismanagement of the programs and will require the state regulatory agency to review the data used to generate a design, which is time- and labor-intensive. Therefore, we recommend that EPA abandon the prescribed computer program and model to avoid future regulatory changes when newer, more applicable programs become available. Furthermore, if the design standard described in this rule must remain, the language in the *Federal Register* should be more vague to allow other models, or processes, to be allowed. The development of such evaluations is a dynamic process and must allow for improvement as better models and methods are developed. Additionally, if this design standard described in this rule must remain, the analysis should be done by the EPA or the state regulatory authority for the most

common types of facilities in order to reduce repetitious and unnecessary work for CAFO owners.

The language in section 1 of 412.46 appears to suggest that the Director establishes best management practices and effluent limitations for said sites. For most situations, facilities are similar in that it is just a matter of how “big” the pond needs to be. We suggest that such evaluations should be done by the permitting authority or by EPA using the before mentioned tools to develop these effluent limitations and best management practices for most general types of facilities. For facilities that would deviate from the normal or established general types, then a site specific analysis would be warranted. For example, a storage basin and lagoon are the typical containment facilities for swine in EPA Region 7. The regulatory authority in each Region 7 state would establish effluent limitations and best management practices for facilities in different parts of their state. Design criteria would be the output of such an evaluation using daily time step models and software. The analysis would show the minimum volumes necessary to meet the “zero discharge standard” and if facilities met those volumes then they would essentially meet the zero discharge standard. Facilities that deviated, such as one that would use a two-stage treatment lagoon for example, would be required to perform a site-specific evaluation. To require the proposed evaluation on every similar site we expect will place an unnecessary burden on the CAFO owners and the regulatory agency reviewing the design and does not necessarily provide the protection EPA is pursuing.

If section 412.12 (1) is not stricken entirely, the following language is suggested to remove reference to SPAW and AWM and allow for a more generalized approach:

“An evaluation of the adequacy of the designed manure storage structure using a model or procedure approved by the Director. The evaluation must include a daily time step process utilizing precipitation, temperature, and evaporation data for a period appropriate for the site, soil profiles representative of the CAFO’s land application areas, planned crop rotations consistent with the CAFO’s Nutrient Management Plan,

and the final modeled result of no overflows from the designed open manure storage structure.”

We recommend the burden of the effluent limitations for new sources and their best management practices (nutrient management plans) be established by the permitting authority for the most common facility types in each state as opposed to requiring every new source to complete a similar evaluation to meet the “zero discharge” standard. For facilities that deviate from the suite of “typical” operations, a site specific evaluation would be appropriate. The analysis being completed by the EPA or the Director allows for public scrutiny of such a complex evaluation and minimizes unnecessary cost to the CAFO owner.

Second, EPA must consider technology standards other than storage. The agricultural industry utilizes open containments for purposes other than storage. The NSPS established does not appear to have considered the economics behind technologies such as nitrogen reduction or pathogen treatment.

Topic: Conceptually, does having a zero discharge standard and an NPDES permit make sense?

Our Concern:

As defined by the US EPA, “...*the National Pollutant Discharge Elimination System (NPDES) permit program controls water pollution by regulating point sources that discharge pollutants into waters of the United States.*”

Recommendation:

By definition, a “zero discharge” system is not designed to discharge pollutants into waters of the United States and, therefore, should not fall under the guidance of an NPDES permit. Therefore, it seems unreasonable to request new swine, poultry and veal operations to certify that their open manure storage can achieve a zero discharge

standard, but then to require an NPDES permit to provide protection in the event of a precipitation-related discharge.

Topic: Who Needs a Permit?

Specific EPA Questions:

- EPA seeks comment on the completeness and accuracy of a list of situations where a discharge may occur to further assist CAFOs in their decisions regarding whether or not to seek permit coverage (*Federal Register*, p. 37749)
- EPA also solicits comments on its proposal to replace the duty to apply provision promulgated in the 2003 CAFO rule with the narrower duty to apply provision described [on page 37749 of the *Federal Register*].

Our Concern:

The *Federal Register* (p. 37749) states that “EPA suggests that Large CAFOs falling into one or more of [the categories listed] should consider seeking permit coverage.”

Recommendation:

The list of criteria on page 37749 of the *Federal Register* appears to be complete. The only situation not included is “where an operation that handles all manure and/or litter as a dry product and does not control the land application of this material, but is subject to emergencies or natural disasters beyond the operator’s reasonable control.”

Because an operation with an actual discharge of pollutants to waters of the U.S. can be designated as a CAFO, thereby requiring coverage under an NPDES permit, the rule should state that any AFO that does not meet the definition of a CAFO, cannot apply for NPDES coverage. This makes a solid distinction between regulated operations and unregulated operations. It is our understanding that EPA did not intend to regulate the smaller operations that did not pose a significant risk to waters of the US. By disallowing AFO’s to apply for permit coverage, they should have the same protection or

“shield” as an operation in the event of an accident or natural disaster that does have an NPDES permit as both are complying with the rule, and consequently the CWA.

Topic: What are the Benefits and Liabilities of Getting a Permit?

Our Concern:

As stated in the Federal Register (p. 37749), under this proposal, “...*it would be the CAFO’s responsibility to decide whether or not to seek permit coverage based on whether they discharge or propose to discharge.*” We believe the question to consider regarding the protection of the permit is “Is it more detrimental to have a discharge without holding a permit than to have a discharge that is not authorized by a permit?”

As stated in the Federal Register, “*Any CAFO that discharged or proposed to discharge and failed to obtain an NPDES permit would be in violation of the NPDES regulatory requirement to seek coverage under an NPDES permit. A facility with an actual discharge would also be in violation of the CWA prohibition against discharging without an NPDES permit...Any discharge from a CAFO, even one that is unplanned or accidental, is illegal unless it is authorized by the terms of a permit.*” The only authorized discharge from a CAFO (aside from those covered under the agricultural stormwater exemption) is a precipitation-related discharge that exceeds the design standard for the manure storage structure. “*The owner or operator of a CAFO that fails to obtain an NPDES permit and has a discharge is subject to State or federal enforcement, as well as liability from citizen suits under CWA Section 505(a).*”

The claim has been made that holding an NPDES permit will protect the producer from EPA involvement. However, it seems that whether a facility is operating under the guidelines of a permit or not, there is liability and potential for regulatory action in the event of a spill reaching waters of the state and, regardless of whether an NPDES permit is held, the state regulatory agency and the federal EPA have the right to litigate in the event of a spill.

Though the Federal Register contains discussion on liability of an operation that has a discharge without the protection of a permit, no discussion is included to state the liability that exists for a permitted facility that has an unauthorized discharge.

Recommendation:

For beef and dairy operations and existing swine, poultry and veal operations (i.e. those not designated as “new sources”) designed using the 25-year, 24-hour storm or other precipitation event standard, a permit provides the protection to avoid liability for precipitation-induced discharge if proper management practices are documented. Therefore, these operations should acquire the protection offered by an NPDES permit. We agree with maintenance of this design standard for beef and dairy operations, and existing swine, poultry and veal operations.

For existing “dry manure handling” operations, such as poultry facilities that do not land-apply their own litter, a permit appears to be necessary only if the operation wishes to have protection from liability for discharges that occur due to “an act of God” such as flooding, hurricanes, tornadoes, etc.

New source swine, poultry and veal operations are to be operated as zero-discharge facilities, so any discharge will be open to litigation, regardless of the terms of the permit. However, permit “...*upset provisions can protect permittees from legal liability when emergencies or natural disasters cause discharges beyond the permittee’s reasonable control...This protection is not available to unpermitted CAFOs.*” Therefore, new source swine, poultry and veal operations, regardless of their method of manure collection, treatment, and storage, will require a permit.

The liability for an unauthorized discharge by a facility operating under an NPDES permit needs to be detailed in the CAFO rule to assist producers in making a decision of whether or not to seek coverage under an NPDES permit.

Additionally, specific circumstances in which the upset and bypass measure can be applied to new zero-discharge swine, poultry and veal operations operating under the coverage of an NPDES permit should be identified to assist state regulatory authorities implementing the NPDES program.